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ANALYSIS OF BOPO, LDR, EPS AND ROE RATIOS TO STOCK PRICES IN 10 MAJOR BANKS LISTED ON THE IDX

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ABSTRACT: Shares are an investment in the mass market that is quite easy to do nowadays. It is not surprising that even though the Covid-19 pandemic occurred some time ago, the capital market is increasingly busy, both for investment and trading purposes. With the ease of registering as an investor through registered securities, which can be done by downloading the application and attending a basic capital market school with very minimal capital, it is very affordable for novice investors, both among students who already have a KTP (Resident Identification Card) and other people. adults who have income or not. Don't forget that bank issuers have also increased, especially in terms of share prices. This research aims to identify the influence of the operating expense/operating income ratio (BOPO), loan to deposit ratio (LDR), earnings per share (EPS), and return on equity (ROE) on bank share prices. The data in this research was collected from the Indonesian Stock Exchange and the Financial Services Authority.

Keywords: Stock Price, Bank, Ratio

INTRODUCTION

The world of capital market instrument investment is very popular in various circles. Many millennial to gen Z investors who just have identity cards or identity cards that we usually call ID cards. Capital market instruments that are in great demand lately include stock investment and mutual funds. Since 2019, many securities companies were easily accessible until the beginning of the Covid-19 pandemic in 2020, many securities advertisements, especially through advertisements from social media applications that are actively used by both active workers and lying down. When, where the popular term "*stay at home*" *there are many activities that we usually do outside the home but from early 2020 to early 2022 we can do many* out door activities through from home, we just *stay at home*. Even we can register a securities account that is enough to do from home through a *smartphone* or smart phone supported by the

internet network and to have a banking account aka open a savings account we can also do from home *online* with verification via *face id* and resident identity cards. There are many securities advertisements, especially through advertisements from social media applications that are actively used by both active people and lying down to registration tutorials, we can know and learn from home until we can find many capital market school schedules from the most basic stages, aka beginners online, through various *online* applications that we can join, as well as a lot of groups to learn to crash courses in becoming investors or *Which traders* we can follow through gadgets with internet networks (Hamdani & Bahgia, 2021).

Because since the Covid-19 pandemic, it is very easy for capital market portfolio investors to buy and sell stocks or day trade. In an era that is very easy to make transactions on the capital market for investors and potential investors. The risks that must be known to novice investors and potential investors in the world business capital market, especially *stocks* or shares. Indeed, there are benefits that will be obtained in ownership, but there are also losses, in this case, commonly called capital *gains* and *capital losses*, there are also

other benefits in the form of dividends that are usually given by a company to its stock holders for a certain amount of time with an amount that can change every time it is distributed. There are risks in the capital market, namely whether they are measurable or not or systematic and non-systematic (Putra, 2018).

In this study, researchers will focus on the second risk, namely non-systematic risk, risk that is quite specific to a company or internal company factors including in terms of finance, namely the company's financial statements that are estimated to affect its stock price. A way to find out the company's performance is to analyze its financial performance. The analysis aspect in stocks is fundamental and technical analysis. In financial performance we can do fundamental analysis. Fundamental analysis is generally used to measure the performance of a stock based on its financial statements and the financial condition of the stock issuing company, in other words, with fundamental analysis, the investor or potential investor can find out the operational condition of the stock issuing company, the financial performance can be seen from the ratio. As for technical analysis, which is to predict stock movements in terms of direction based on the record, it can be seen from the chart.

In stock investment, there is an investment ratio called the ratio as a

measure of the company's ability to provide rewards to its investors in the capital market within a certain period of time. There are several ratios that should be known before buying shares, including Earning Per Share (EPS), Price to Earning (PER), Ptice to Book Value (PBV), Return on Equity (ROE), Current Ratio (CR), and Devidend Yield (DY) (Azmi, 2021).

In today's modern era, it is very easy for us investors, potential investors, and researchers as well as students or people who just want to know such as financial performance reports to ratio reports of a company, especially companies that have *gone public* can very easily get the information *online* through the internet network, we can access the information report either sourced on the company's website, through the Indonesia Stock Exchange (IDX) page if it has been listed on the Indonesia Stock Exchange, the Financial Services Authority (OJK) if registered with the OJK (Amanah, 2019). Supported by an ease in obtaining this information, both beginners and

potential investors are expected to be able to find out about the company to the company's financial statements from shares that are already owned or desired shares. With this information, it is expected to understand the types of issuers in order to always benefit from their investments in the future (Kariyoto, 2017).

From financial statement information we can get financial ratio information because financial ratios are sourced from financial statements (Hidayat, 2018). Fundamental analysis can be done to research and as a source of information for others or to analyze the benefits of stocks owned or wanted to be bought by investors or themselves.

Given the popularity of the stock investment business either as a side business, additional or as the main income since 2019 until now, there is one sector that has increased in terms of return and even the price has increased from time to time, namely the banking sector which is also quite popular with both long-time investors and novice investors.
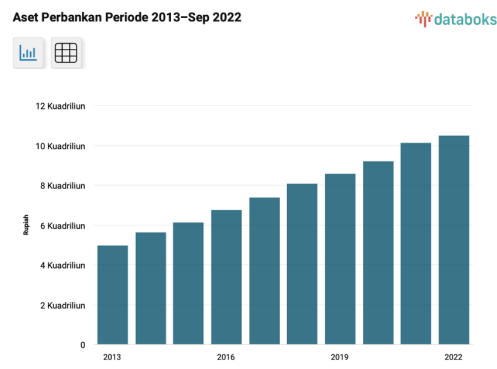
Figure 1. Banking Assets from 2013 to 2022
Source: Databoks

The Financial Services Authority (OJK) reported that national banking assets grew 7.73% to Rp10.49 quadrillion until September 2022 compared to September 2021 (year *on year / yoy*). Compared to the position at the end of 2021, banking assets grew 3.71%.

Banking assets grew more than 2.5 times or 146% in the last decade (2012-Sep 2022). As is known, banking assets in 2012 only reached Rp4.26 quadrillion, but in September 2022 it has exceeded Rp10 quadrillion. Banking assets have grown by an average of 9.47% per year in the last 10 years (2013-2022). Banking assets recorded the highest growth of 16.23% per year, namely in 2013. National private banks record the largest and smallest amount of assets are branch offices of banks domiciled abroad. The following is a list of banking assets by bank type as of September 2022:

- Private Banks: Rp4,733.66 trillion
- Bank Persero: IDR 4,323.08 trillion
- BPD: IDR 904.09 trillion

- Branch Offices of Banks domiciled abroad Rp526.74 trillion
- Total: Rp10,487.57 trillion

Meanwhile, assets of conventional commercial banks grew 7.26% (*yoy*) to Rp9.99 quadrillion as of September 2022. The number of investors in the capital market has increased from year to year.
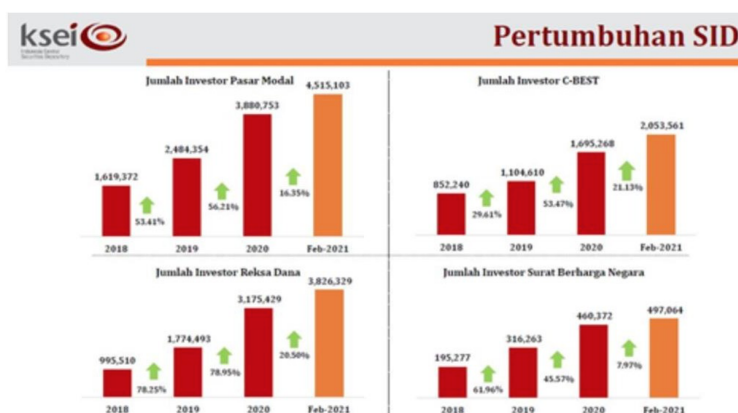
Figure 2. Increasing Number of Investors
Source: KSEI

RESEARCH METHODS

Types of research

This research model is included in the type of *explanatory rsearch* or explanatory research. Explanatory research is a type of research conducted to determine the cause-and-effect relationship between two or more variables (Digdowiseiso, 2017). The purpose of explanatory research is to find a deeper explanation or understanding of certain phenomena or events. This research is used to test existing theories or models, as well as to understand the factors that influence or cause a phenomenon to occur. Explanatory research usually uses quantitative research methods that involve collecting data in the form of numbers or statistics (Jam'an & Radjab, 2017). The collected data is then analyzed to test the hypothesis and find cause-and-effect relationships between the variables studied. In this study will explain the relationship between variable variables through hypothesis testing, which aims to find out how much the variables BOPO, LDR, EPS and ROE affect the variables of bank Stock Price.

Population and Sample

Research Population

According to Nursalam (Nursalam, 2016)," population is the entirety of variabael that concerns the problem studied. Pupulation in this research is all companies listed on the Indonesia Stock Exchange (IDX), then reduced to the bank sector.

Research Sample

According to Soekidjo, "the sample is a portion to be taken from the entire object under study and is considered representative of the entire population." The sample in this study is banks listed on the IDX and then filtered to meet the criteria to be

researched by researchers, namely, large banks listed on the Indonesia

Stock Exchange (Ningsih, 2017).

Tabel 1. Perhitungan Sampel

No	Kriteria Sampel Penelitian	Jumlah
1	Bank Dengan Aset Terbesar	10
2	Jumlah Laporan Keuangan Triwulan 2019-2022	16
	Total Sampel	160

Data Analysis Methods

The data obtained from the research results are then continued with a multiple linear regression analysis model using the help of the EViews software program version 12 which aims to find out how much influence BOPO, LDR, EPS and ROE have on the Stock Price. Before conducting multiple regression analysis, descriptive statistical analysis and classical assumption tests will be carried out.

Classical Assumption Test

Classical assumption test is a process of testing several assumptions that must be met in regression analysis to ensure the validity of the analysis results. Some of the classic assumptions that will be carried out in this study are the Linearity test, Heteroscedasity test, Multicorrelation test, Normality test, and Autocorrelation test (Joseph, Jun, Flora, Park, & Yoon, 2019). Classical assumption tests are performed to ensure that the results of regression analysis are reliable. If any of the assumptions are not met, then the

regression analysis may not be valid and action needs to be taken to correct it before interpreting the results of the analysis. Classical assumption tests can be performed with various statistical techniques, such as normality tests (such as the Shapiro-Wilk test), homoscedasticity tests (such as the Breusch-Pagan or White test), and others.

Linearity Test

The linearity test is carried out in order to determine whether or not there is a linear relationship between the independent variables to be tested. Linearity testing is carried out by paying attention to the distribution of data for each variable whether it forms a pattern or not. If the spreading data does not have a certain pattern, it can be said that the data has symptoms of linearity between variables (Joseph et al., 2019).

Heteroscedacity Test

According to Kuncoro 2016, it is an error or residual of the observed model that does not have constant

variance from one observation to another (Kuncoro et al., 2016).

The state of heterokedasticity will cause the assessment of regression coefficiency to be inefficient. Estimates can be underestimated, and more than they should be or misleading.

Heteroscedasticity testing is using the Pagan Breusch test. The Pagan Breusch test is performed with the square value of the residual against the independent variable.

The hypotheses in this test are:
H0 = If the value is significant   0.05 then heteroscedasticity does not occur.
H1 = If the value is significant   0.05 then heteroscasticity occurs.

Multicollinearity Test

According to Pyndyk and Rubenfeld in Kuncoro, it is a situation where there is a correlation of independent variables with one another where the relationship between the independent variable is higher than the relationship between the independent variable and the dependent variable. The way that can be done to overcome multicollinearity between others is with the Koutsoyiannis method, transforming variables and obtaining more data (Susilo, 2010). Based on this method, the initial step is the regression of dependent variables on each independent variable contained in a regression model being tested. Then from the results of this regression, one of the most convincing a priori and statistically regression models was chosen. This selected regression model is called elementary regression. Then enter one by one other independent variables to be regressed in relation to the predetermined bound variable. The results of the regression that occurred were examined both regarding the coefficient of this regression and R2. The independent variable newly introduced into the experiment can be classified as a useful independent variable. It does not need to be superfluous) and spoil the result (detrimental). In this study, the VIF (Variance Inflanation Factor) method will be used to detect the presence or absence of symptoms of multicollinearity. According to Ekananda, it is said that there is no multicollinearity problem if it has a VIF value below 10 and a tolerance number of 0.10 or (VIF = 1/tolerance) (Ekananda & Parlinggoman, 2017). Meanwhile, to overcome data that experience multicollinearity in the model, researchers can do so by using several different ways, looking at similar information, removing collinary independent variables and models, transforming variables, and looking for additional data (Nachrowi & Usman, 2007).

Normality Test

According to Ghozali, the 2016

normality test is to test whether the residual values that have been standardized in the regression model are normally distributed or not. There are 2 ways to detect whether residuals are normally distributed or not, namely by graph analysis and statistical tests (Ghozali, 2016).

Screening for data normality is the first step that must be done for multivariate analysis. According to (Joseph F, 2019) normality tests that can be done include:

1. By analyzing the residual standerdized histogram. The result of the histogram that indicates normally distributed data is a bell-shaped histogram and does not tend to the left and right.
2. The residual mean value is 0.000
3. Using the Smirnov wilk kologrov test where the significance value of the 2 tests is ideally 0.005.

In decision making, the normality test conducted in this study is as follows: H0 : Normal distributed data if the histogram is bell-shaped and does not tend to the left or right, the residual mean value is 0.000, the Kolmogorow Smirnov or Shapiro Wilk test results have significance above 0.005. H1 : Data is not normally distributed if the existing data does not meet all the required criteria.

Autocorrelation Test

According to (Kuncoro, 2016) Autocorrelation test is a correlation that occurs between members of a series of observations arranged in a time series such as time series (time series data). Or those arranged in a series of spaces (such as cross-time data or cross-sectional data).

Autocorrelation test is a correlation that occurs between residuals in one observation with other observations in the regression model. Autocorrelation can be known through the Durbin Watson Test (D-W Test), which is a test used to test the presence or absence of serial correlation in the regression model, or to find out whether in the model used there is an autocorrelation with the Durbin-Watson Test (D-W Test).

The test in this study used Durbin-Watson test (D-W Test) and Ljung Box test. The hypotheses that will be tested are:

H0 = No autocorrelation (r = 0) H1 = No autocorrelation (r   0)

According to (Ghazali, 2018) autocorrelation decision making using Durbin-Watson Test is determined with the following conditions:

1. If 0 < d <dl, the hypothesis of no positive autocorrelation of the results is rejected.
2. If dl d   du, the hypothesis of no positive autocorrelation means no decision.
3. If 4 – dl < d < 4, the hypothesis of no negative autocorrelation of the results is rejected.
4. If 4 – du   d   d – dl, the hypothesis is no negative autocorrelation of the results is no result.

5. If du< d < 4 < du, the hypothesis is no positive autocorrelation and the negative results have no results.

Meanwhile, testing with the Ljung-Box test is to pay attention to the significance to 16 degrees of lag. The test is said to occur autocorrelation if the number of lags that are significant (< 0.05) is more than two. Conversely, if the number of lags that have significance is less than 2, it can be said that autocorrelation does not occur (Ghozali, 2016).

Uji Hypothesis

F Statistical Test (Simultaneous)

The F test is used to determine the presence or absence of simultaneous influence (together) given by the independent variable (X) on the variable (Y) with a significant level of 0.05 with decision making F calculate > F table. The F-test decision-making hypothesis is as follows:

H0 = If the significance value 0.05, then the independent variable simultaneously does not affect the dependent variable.

H1 = If the significance value < 0.05, then the independent variable simultaneously affects the dependent variable.

RESULTS AND DISCUSSION

Verification Analysis

Model 1: Influence of BOPO, LDR, EPS and ROE on Share Price

Classical Assumption Test

The consideration of the need for classical assumption tests in regression analysis models is to avoid bias that makes regression results do not have the ability to estimate well or are BLUE *(Best Linear Unbiased Estimator)*. The results of the classical assumption test for the above model are described in the following sections.

Normality Test

The results of normality testing can be seen in the following Figure.
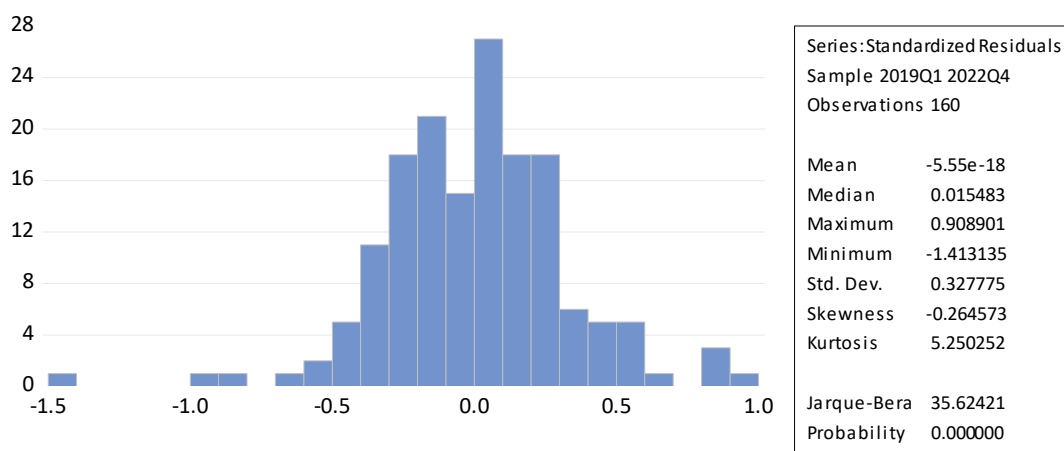
Picture 3. Model 1 Normality Test Results: The Effect of BOPO, LDR, EPS and ROE on Stock Prices

Source : Processed Data, 2023

From the histogram image above, it can be seen that the Jarque-Bera value is 35.62421 with a *probability value* of 0.000000. Thus the *probability value* is 0.00000 < 0.05, so it can be concluded with a 95 percent confidence level that it can be said that the *error term* or all variables observed are not normally distributed. So it must be looked for data outliers that cause normality symptoms in the research model.

One way to find data outliers can be done by looking at the residual data of the model. If residual data is large, then it is data that is an outlier. Based on the results of data processing, Bank BSI (obs #5) is data that is detected as an outlier in this study so that it must be excluded from the observation data of this research model.
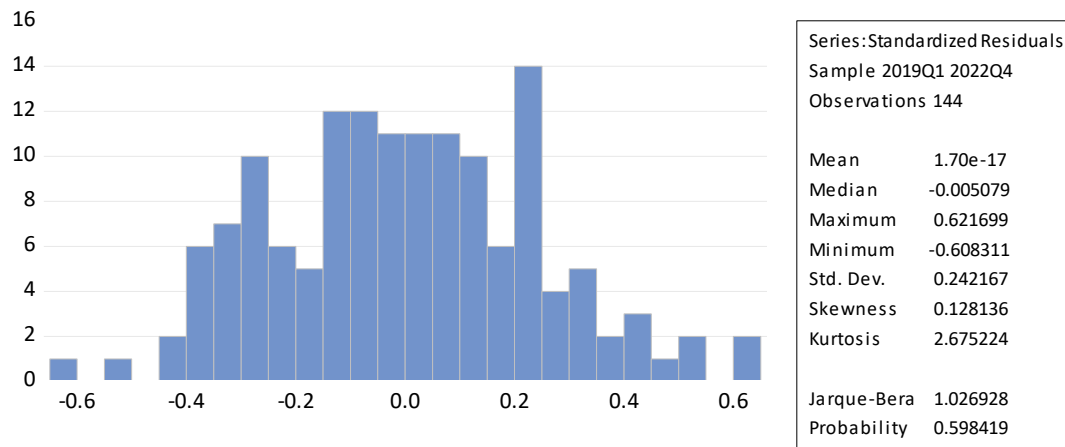
Table 2
Table of Actual, Fitted and Residual Research Data (partial)

obs	Actual	Fitted	Residual	Residual Plot
5 - 19Q1	6.31897	6.90433	-0.58536	
5 - 19Q2	6.22456	6.56834	-0.34378	
5 - 19Q3	6.00141	6.60084	-0.59943	
5 - 19Q4	5.79909	6.61174	-0.81265	
5 - 20Q1	5.27811	6.69125	-1.41313	
5 - 20Q2	5.7301	6.70269	-0.97259	
5 - 20Q3	6.62007	6.72074	-0.10067	
5 - 20Q4	7.71869	6.83145	0.88723	
5 - 21Q1	7.73193	6.86217	0.86976	
5 - 21Q2	7.74066	6.92085	0.81982	
5 - 21Q3	7.62071	6.96723	0.65347	
5 - 21Q4	7.48437	6.97384	0.51053	
5 - 22Q1	7.36518	6.91717	0.44801	
5 - 22Q2	7.20042	6.97882	0.22161	
5 - 22Q3	7.29302	7.0122	0.28082	
5 - 22Q4	7.1624	7.02604	0.13636	

Sumber : Eviews 12.0, 2023

It can be seen in the table above, that the residual value for Bank BSI during the study period has residuals that deviate far from the *line fitted to the model* so that it must be excluded from the research observation data.

Series: Standardized Residuals	
Sample 2019Q1 2022Q4	
Observations 144	
Mean	1.70e-17
Median	-0.005079
Maximum	0.621699
Minimum	-0.608311
Std. Dev.	0.242167
Skewness	0.128136
Kurtosis	2.675224
Jarque-Bera	1.026928
Probability	0.598419

Picture 4. Model 1 Normality Test Results: The Effect of BOPO, LDR, EPS and ROE on Stock Prices

Source : Processed Data, 2023

From the histogram image above, it can be seen that the Jarque-Bera value is 1.026928 with a *probability value* of 0.598419. Thus, the *probability value* is 0.598419 > 0.05, so it can be concluded with a 95 percent confidence level that the *error term* or all observed variables are normally distributed. The normality of this distribution is also indicated by the histogram of data distribution which tends to form a normal curve.

Multicollinearity Test

The following are the results of the multicollinearity test.

Table 4
Multicollinearity Test Between Independent Variables
(Variabel Pada Substruktur 1)

	BOPO	LDR	ROE	EPS
BOPO		0.121095	-0.30889	-0.29302
LDR	0.121095		0.014672	-0.08017
ROE	-0.30889	0.014672		0.72337
EPS	-0.29302	-0.08017	0.72337	

Source: Processed Data, 2023

From Table 4.7, it is known that there is no multicollinearity problem in multiple regression equations. This is because the correlation *matrix* value of all independent variables is that none of them are above 0.80.

Heteroscedasticity Test

Heteroscedasticity testing is performed using the Glacier Test. The following are the results of the heteroscedasticity test using the glacier test.

Table 5

Summary of Model 1 Heteroscedasticity Test Results : The Effect of BOPO, LDR, EPS and ROE on Stock Prices

Dependent Variable: ABS_RES
Method: Panel Least Squares
Date: 11/21/23   Time: 12:46
Sample: 2019Q1 2022Q4
Periods included: 16
Cross-sections included: 9
Total panel (balanced) observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.058785	0.102755	0.572093	0.5682
BOPO	-0.098664	0.054400	-1.813672	0.0719
LDR	0.147315	0.055190	2.669244	0.0850
ROE	-0.044645	0.019180	-2.327665	0.0735
EPS	0.006098	0.013458	0.453098	0.6512

Root MSE	0.134252	R-squared	0.096487
Mean dependent var	0.195676	Adjusted R-squared	0.070487
S.D. dependent var	0.141732	S.E. of regression	0.136645
Akaike info criterion	-1.108749	Sum squared resid	2.595407
Schwarz criterion	-1.005630	Log likelihood	84.82990
Hannan-Quinn criter.	-1.066847	F-statistic	3.710992
Durbin-Watson stat	1.514587	Prob(F-statistic)	0.006672

Source: Processed Data, 2023

Based on the test results, table 4.8 shows that the significance value is greater than 0.05. This means that there are no symptoms of heterokedasticity in the regression model.

Common *Effect, Fixed Effect or Random Effect Selection*

Panel data regression analysis is a method used to model the influence of predictor variables on response variables in several observed sectors of an object of study over a certain period of time. Panel data regression analysis is a method used to model the influence of predictor variables on response variables in several observed sectors of an object of study over a certain period of time. In addition, panel data regression is also used to forecast response variables in each sector. However, to predict it, it is necessary to do forecasting in advance for the predictor variables in each sector.

Test Chow

The Chow test is performed to determine whether *the Common* Effect (CE) or *Fixed Effect* (FE) model is most appropriate to use in estimating panel data.

Table 6
***Ringkasan Uji Chow Model 1:* The Effect of BOPO, LDR, EPS and ROE on Stock Prices**

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effects Test	Statistic	d.f.	Prob.
Cross-section F	167.832536	(8,131)	0.0000
Cross-section Chi-square	348.524245	8	0.0000

As can be seen in the table above, the probability value of the Chi-square Cross-section is 0.0000. If the value of Prob. Cross-section Chi-square < 0.05 it can be concluded that the use of *fixed effect* rather than *common effect*. Because 0.0000 < 0.05, it is recommended to use *fixed effects*.

Uji Hausman

The Hausman test is a test performed to select whether *the most appropriate* Fixed *Effect   or* Random Effect model is used.

Table 7
***Ringkasan Uji Hausman Model 1:* The Effect of BOPO, LDR, EPS and ROE on Stock Prices**

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.737874	4	0.3153

As can be seen in the table above, the probability value of random cross-section is 0.3153. If the value of Prob. Cross-section random < 0.05, it can be concluded that the use of random *effect* rather than *fixed effect*. Because 0.3153 > 0.05, it is recommended to use *a fixed effect*.

Based on the two regression model determination tests above, it can be concluded that *fixed effect* is the best model for this research model. The lagrange multiplier test is not displayed, because the test results show *a fixed effect* on the Chow test and the Hausman Test. While the lagrange multiplier test is intended to test the use of *randon effect* or *common effect*.

Uji Regresi

Regression testing for the effect of BOPO, LDR, EPS and ROE on Stock Price simultaneously, was carried out through *the Least Square Panel* with multiple Linear Regression equations showing causal relationships between variables as follows:

Structural Equation 1:

$\hat{Y}ij = f(Xij)$

Persamaan Simultan: $\hat{Y} = f(X_{1ij}, X2ij, X3ij, X4ij)$

$\hat{Y} = \beta_0 + \beta1LnX1ij + \beta2LnX2ij + \beta_{3LnX3ij} + \beta4LnX4ij + \varepsilon_i$

Where:

$\hat{Y}$ = Share Price

X1 = BOPO

X2 = LDR

X3 = EPS

X4 = ROE

β0 = Konstanta/ intersep

βi = Regression coefficient of each independent variable

εi = Effect of other variables outside the established model or *error/residue/error*

Based on the results of statistical calculations through the statistical program *Eviews ver. 12.0* for Substructure I, namely: BOPO, LDR, EPS and ROE Against Stock Prices simultaneously, the results are obtained as contained in the Table below,

Tabel 8. Structural Regression Equation 1: *BOPO, LDR, EPS and ROE Against Share Price*

Dependent Variable: PRICE
Method: Panel Least Squares
Date: 11/21/23   Time: 13:32
Sample: 2019Q1 2022Q4
Periods included: 16
Cross-sections included: 9
Total panel (balanced) observations: 144

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.854542	0.226466	30.26736	0.0000
BOPO	-0.284087	0.111404	-2.550054	0.0119
LDR	-0.010222	0.113525	-0.090040	0.9284
EPS	0.061690	0.030747	2.006373	0.0469
ROE	-0.078608	0.044349	-1.772485	0.0786

Effects Specification				

Cross-section fixed (dummy variables)

Root MSE	0.241324	R-squared	0.938764
Mean dependent var	7.426978	Adjusted R-squared	0.933154
S.D. dependent var	0.978610	S.E. of regression	0.253015
Akaike info criterion	0.175206	Sum squared resid	8.386192
Schwarz criterion	0.443314	Log likelihood	0.385179
Hannan-Quinn criter.	0.284150	F-statistic	167.3543
Durbin-Watson stat	0.824797	Prob(F-statistic)	0.000000

Source : Processed Data, 2023

From the calculation results of Table 8 above, the results of multiple linear regression can be obtained partially as follows:

$\hat{Y}$ = 6,854542 - 0,284087(LnX1) - 0,010222(LnX2) + 0,061690(LnX3) - 0,078608(LnX4) + ε1

For the X1 to Y path coefficient of -0.284087, it means that if BOPO increases, the Stock Price will decrease by 0.284087 units or BOPO contributes to the decline in Stock Price by 0.284087 units.

For the path coefficient X2 to Y of -0.010222, it means that if LDR increases, the Stock Price will decrease by 0.010222 units or LDR contributes to a decrease in Stock Price by 0.010222 units.

For the X3 to Y path coefficient of 0.061690, it means that if EPS increases, the Stock Price will increase by 0.061690 units or EPS contributes to an increase in Share Price by 0.061690 units. For the X4 path coefficient to Y of -0.078608, it

means that if ROE increases, the Stock Price will decrease by 0.078608 units or ROE contributes to a decrease in Stock Price by 0.078608 units.

Uji Hypothesis
Simultaneous Hypothesis Testing

To test the effect of BOPO, LDR, EPS and ROE on Stock Price, Snedecor's *F test statistics were used*. The result of F-statistics or Fcalculate is 167.3543 (Table 8) and Prob (F-statistics) is 0.00000 at a significance level of 5%, while the F value of the table with the number of n = 144 and the number of independent variables = 4 variables and the dependent variable = 1 variable, then df1 = k-1 = 4-13, and df2 = n – k - 1 = 144 – 4 – 1 = 139, using a significance level of 5% obtained the result F table = 2.6697.

The research hypothesis, about the existence of simultaneous influences:

tested with the F. Ho.j test is rejected if Tcalculate > T $_{table\ (k,\ n-k-1)}$, at the level (significant α = 0.05 and free degrees db1 = k and db2 = n – k – 1), where n = sample size and k = number of independent variables. Or if the probability value of statistical error (p-value) < α = 0.05. Under these conditions Ha.j.'s alternative hypothesis is accepted.

Based on the calculation results in Table 4.11, it is found that the Fcalculate value of 167.3543 is greater than the Ftable value of 2.6697. Thus, it can be concluded that BOPO, LDR, EPS and ROE have a significant influence on Share Price.

Partial Hypothesis Testing
Partial Effect of BOPO on Stock Price

The partial effect of the BOPO variable (X1) on Stock Price (Y) needs to be tested statistically presented in the following table:

Table 9
Test Results of the Effect of BOPO *on* Stock Prices

Partial Influence	β₁	t count	p-Value	Conclusion
Effect of BOPO on Share Price	-0,284087	-2,550054	0,0119	Reject H0, accept H1. There is a significant and positive influence of BOPO on Share Price

Based on Table 9 the regression coefficient value of BOPO (β1) is -0.284087. The calculation results show that the calculated t value is -2.550054 with a significance level (α) = 5%, *degree of freedom* = n-k-1 or 144-4-1 = 139 and the test was carried out with two sides (2-tailed), obtained t table of -1.9772; so

that t count < than -t table (-2.550054 < -1.9772); similarly P-values 0.0119 < 0.05; so it can be concluded that H0 is rejected which means H1 is accepted. This means that there is a significant and negative influence of the BOPO variable on the Stock Price. This shows that every 1 unit increase of the BOPO variable will

decrease the Stock Price by 0.284087 units.

Partial Effect of LDR on Stock Price

The partial effect of the LDR variable (X2) on Stock Price (Y) needs to be tested statistically presented in the following table:

Table 10
Test Results of the Effect of LDR *on* Stock Prices

Partial Influence	β_2	t count	p-Value	Conclusion
Effect of LDR on Stock Price	-0,010222	-0.090040	0,9284	Accept H0: There is no significant and positive effect of LDR on Share Price

Based on Table 10 the regression coefficient value of LDR (β2) is -0.010222. The calculation results show that the calculated t value is -0.090040 with a significance level (α) = 5%, degree of freedom = n-k-1 or 144-4-1 = 139 and the test is carried out with two sides (2-tailed), obtained t table of 1.9772; so that t count > than -t table (-0.090040 > -1.9772); similarly *P-value* 0.9284 > 0.05; so it can be concluded that H0 is accepted which means H1 is rejected. This means that there is no negative and significant influence of the LDR variable on the Stock Price.

Partial Effect of EPS on Share Price

The partial effect of the EPS variable (X3) on Stock Price (Y) needs to be tested statistically presented in the following table:

Table 11
Hasil Uji Pengaruh dari EPS *terhadap* Harga Saham

Partial Influence	β_3	t count	p-Value	Conclusion
The Effect of EPS on Stock Prices	0,061690	2,006373	0,0469	Reject H0, accept H1. There is a significant and positive influence of EPS on Share Price

Based on Table 11, the regression coefficient value of EPS (β3) is 0.061690. The calculation results showed that the calculated t value was 2.006373 with a significance level (α) = 5%, *degree of freedom* = n-k-1 or 144-4-1 = 139 and the test was carried out with two sides (2-tailed), obtained t table of 1.9772; so that t counts > than t table (2.006373 > 1.9772); similarly P-values 0.0469 < 0.05; so it can be concluded that H0 is rejected which means H1 is accepted. This means that there is a positive and significant influence of EPS variables on Stock Price. This shows that every 1 unit increase of variable EPS will increase the Share Price by 0.061690 units.

The Effect of ROE Partially on Stock Prices

The partial effect of the ROE variable (X_4) on Stock Price (Y) needs to be tested statistically presented in the following table:

Table 12
Hasil Uji Pengaruh dari **ROE** *terhadap* **Harga Saham**

Partial Influence	β_4	t count	p-Value	Conclusion
The Effect of ROE on Stock Prices	-0,078608	-1,772485	0,0786	Accept H0, reject H1. There is no significant effect of ROE on Share Price

Based on Table 12, the regression coefficient value of ROE (β 4) is -0.078608. The calculation results showed that the calculated t value was -1.772485 with a significance level (α) = 5%, *degree of freedom* = n-k-1 or 144-4-1 = 139 and the test was carried out with two sides (2-tailed), obtained t table of 1.9772; so that t counts > than t table (-1.772485 >1.9772); similarly P-values 0.0786 < 0.05; so it can be concluded that H0 is accepted which means H1 is rejected. This means that there is no significant influence of the ROE variable on the Stock Price.

Coefficient of Determination Test

Table 13
Coefficient of Determination of BOPO, LDR, EPS and ROE to Stock Price

Simultaneous Influence	R^2	F count	p-Value	Standard Error of Reg
The Effect of BOPO, LDR, EPS and ROE on Stock Prices	0,938764	67,3543	0,000000	0,253015

Source : Processed Data, 2023

Based on Table 4.25, the amount of contribution/contribution of all independent variables simultaneously to the Stock Price is R2 = 0.938764 or 93.8764 percent. This means that BOPO, LDR, EPS and ROE Against Stock Price is 93.8764 percent, and the remaining 6.1236 percent is influenced by other variables outside the research variables.

Discussion of Analysis Results Verification Discussion

The Effect of BOPO, LDR, EPS and ROE on Stock Prices Simultaneously

The amount of influence of BOPO, LDR, EPS and ROE on Stock Prices is 93.8764 percent, and the remaining 6.1236 percent is influenced by other variables outside the research variables.

Thus, the simultaneous influence of independent variables, namely BOPO, LDR, EPS and ROE on Stock Prices in Banks Listed on the IDX, has a significant influence. This can be understood,

considering that the four variables that affect the Share Price of Banks Listed on the IDX are the dominant variables that can affect the level of Share Prices in Banks Listed on the IDX.

However, the total influence of other variables outside the established research model is still quite large, amounting to 6.1236 percent. As for other variables that affect the Stock Price of Banks Listed on the IDX but not studied, including:

1). **Non-Performing Loans; 2). Liquidity; 3). CKPN ratio; 4). And other Stock Price supporting factors.**

The results of this study stated that of the four research variables determined, only two variables had a significant influence on Stock Prices both positively and negatively, namely BOPO and EPS.

In line with the large potential contribution of the four research variables to Share Prices in Banks Listed on the IDX, especially for Stock Prices in the 10 largest Banks Listed on the IDX, they must start paying attention to these four variables to increase Stock Prices.

Banks listed on the IDX are expected to make strategic planning that prioritizes various aspects to support the increase in Share Price. In addition, banks listed on the IDX should continue to pay attention and review the latest conditions of BOPO, LDR, EPS and ROE to encourage an increase in Share Price. The study is related to identifying factors that can increase Share Prices in Banks Listed on the IDX, providing policies related to the essential needs of

banking operations, so that along with the increase in BOPO and LDR, Stock Prices will also increase. In addition, continuous performance improvement is also expected to have an impact on increasing stock prices whose information can be captured through increasing EPS by investors.

The Effect of BOPO, LDR, EPS and ROE on Stock Prices Partially

1. The Effect of BOPO on Stock Prices

Based on the results of the verification analysis, it is known that partially, BOPO has a significant negative influence on the Share Price. The BOPO variable has the largest regression coefficient value (in absolute terms) in the research model compared to other variables, meaning that the BOPO variable contributes greatly to the Stock Price. It also shows that the BOPO variable contributes to an increase in Stock Price of -0.284087 units for every increase in BOPO.

Based on the test criteria described earlier, it can be seen that the *calculated* value of the BOPO variable is in the area of rejection of the null hypothesis. This indicates that *H0 is* rejected and *H1* is accepted, meaning that BOPO has a partial significant effect on the Share Price.

The regression coefficient value of the BOPO variable, which is the largest regression coefficient value in this model, does not mean that the BOPO variable is the only variable that needs to be considered in decision making. In order to increase Share Price, banks listed on the IDX must continue to pay

attention to BOPO variables so that they can continue to be controlled in the future.

The value of this regression coefficient is due to Operating Costs to Operating Income (BOPO) is a ratio that reflects the operational efficiency of a bank. The increase in BOPO can be considered as an indicator that the bank's operating costs are relatively high compared to its operating income. Poor operational efficiency can reduce a bank's profitability, which in turn can affect stock prices. The influence of BOPO on stock prices can vary depending on a number of factors, including market conditions, industry structure, and macroeconomic factors. Panel regression analysis can provide further insight into the relationship between BOPO and stock prices, but interpretation of regression results needs to consider the broader economic and industrial context.

In the context of the decline in share prices in banks during the study period which was during the Covid-19 pandemic, BOPO (Operating Costs to Operating Income) can be a significant factor. Here are some common reasons why BOPO can have the greatest impact:

1. **Increased Operating Costs:** During the pandemic, banks may face increased operational costs related to the implementation of security protocols and changes in business models, such as increased use of technology to support remote work.
2. **Declining Operating Income:** Amid economic uncertainty during the

pandemic, a bank's operating income may decline due to a decline in overall economic activity, which may worsen the BOPO ratio.

3. **Business Strategy Adjustments:** Some banks may have had to adjust their business strategies during the pandemic, such as physical branch closures and increased focus on digital banking services, which may affect operating costs and operating income.
4. **Deterioration in Credit Performance:** Banks may face increased credit risk and increased NPLs during the pandemic, which may affect financial performance and impact share prices.

The Effect of LDR on Stock Prices

Based on the results of the verification analysis, it is known that partially, LDR does not have a significant influence on the Stock Price. The regression coefficient given by LDR to the Stock Price is -0.010222. The LDR variable is the variable with the smallest regression coefficient value (in absolute terms) in this research model. Having the smallest partial influence on this model means that the LDR variable contributes the least to the Stock Price. It also shows that the LDR variable contributed to the decline in Stock Price by 0.010222 units.

Based on the test criteria described earlier, it can be seen that the *calculated* value of the LDR variable is in the area of acceptance of the null hypothesis. This indicates that *H0* is accepted and *H1* is rejected, meaning that LDR has no partial significant effect

on the Share Price.

The regression coefficient value of the LDR variable is the smallest regression coefficient value in this model, so the LDR variable is a variable that needs to be considered in decision making. In order to increase Share Price, Banks Listed on the IDX must continue to pay attention to the LDR variable in order to continue to increase the potential increase in Share Price in the future.

The value of the LDR variable coefficient which is not so large is a reflection that banks listed on the IDX do not pay attention to the contribution of LDR as well as possible. This LDR variable can provide another perspective on the decision-making process and is able to have a good impact on the Stock Price of Banks Listed on the IDX.

In the context of rising share prices in banks during the pandemic, LDR (*Loan to Deposit Ratio*) can be a significant factor. Here are some common reasons why LDR can have an influence on Stock Prices:

1. **Monetary Policy and Low Interest Rates:** During the 2019-2022 study period, banks may be faced with low or stable interest rates. In this environment, LDR may not have a significant impact on stock prices because borrowing costs are relatively low.

2. **Portfolio Diversification and Non-Interest Income:** Large banks may have strong portfolio diversification strategies, including non-interest income such as service fees and commissions. This can reduce the direct impact of LDR on stock prices.

3. **Resilience to Credit Risk:** Although LDRs relate to credit risk, such banks may have effective credit risk management and quality credit portfolios, so the impact of LDRs on share prices is limited.

4. **Influence of External Factors, Including Pandemic Periods: Pandemic** periods can provide significant economic volatility. However, the LDR's effect on stock prices can be muted by other factors such as economic stimulus and aggressive monetary policy.

The Effect of EPS on Stock Prices

Based on the results of the verification analysis, it is known that partially, EPS has a significant influence on the Share Price. The regression coefficient given by EPS to Stock Price is 0.061690. The EPS variable has a fairly large regression coefficient value, meaning that the EPS variable contributes significantly to the Stock Price. It also shows that variable EPS contributed to an increase in Share Price of 0.061690 units.

Based on the test criteria described earlier, it can be seen that the *calculated* value of the EPS variable is in the area of rejection of the null hypothesis. This indicates that *H0 is* rejected and *H1* is accepted, meaning that EPS has a partially significant positive effect on the Share Price.

The regression coefficient value of the EPS variable is the second smallest regression coefficient value (in absolute

terms) in this model, but has a considerable influence so that the EPS variable is a variable that needs attention in decision making. In order to increase Share Price, Banks Listed on the IDX must always pay attention to EPS variables so that they can continue to be controlled and increased benefits in the future.

In the context of rising share prices in banks during the pandemic, EPS (*Earnings per Share*) can be a significant factor. Here are some common reasons why EPS can have an impact on Stock Price:

1. **Consistent Profitability:** Large banks may manage to maintain or increase their profitability during the period. Rising EPS indicates that the earnings generated by those banks per share are also rising, which can give positive signals to investors.

2. **Effective Risk Management:** Banks that were able to manage risks well during the pandemic, including credit and operational risks, tended to perform better. This can be reflected in positive EPS growth.

3. **Resilience to Economic Uncertainty:** Banks that can adapt to changing economic conditions, including challenges that arose during the pandemic, may have a positive impact on financial performance and, ultimately, on EPS.

4. **Government Stimulus and Support Policies:** Economic stimulus measures taken by the government during the pandemic, such as interest rate reductions and fiscal stimulus

programs, can provide additional support for banks' financial performance, reflected in EPS growth.

The Effect of ROE on Stock Prices

Based on the results of the verification analysis, it is known that partially, ROE has a significant influence on the Stock Price. The regression coefficient given by ROE to Stock Price is -0.078608. The ROE variable has a fairly large regression coefficient value, meaning that the ROE variable contributes greatly to the Stock Price. It also shows that the variable ROE contributed to the increase in Stock Price by -0.078608 units.

Based on the test criteria described earlier, it can be seen that the *calculated* value of the ROE variable is in the area of acceptance of the null hypothesis. This indicates *that H0* is accepted and *H1* is rejected, meaning that ROE has a partial significant effect on the Stock Price.

The regression coefficient value of the ROE variable is the smallest regression coefficient value in this model, but has a considerable influence so that the ROE variable is a variable that needs to be considered in decision making. In order to increase Share Price, Banks Listed on the IDX must always pay attention to the ROE variable so that it can continue to be controlled and increased benefits in the future.

In the context of rising share prices in banks during the pandemic, EPS (*Earnings per Share*) can be a significant factor. Here are some common reasons why EPS can have an impact on Stock

Price:

1. **Effect of the Pandemic on Profit and Financial Performance:** The pandemic period may have had a negative impact on banks' profits and financial performance. ROE that indicates the level of profitability can be affected by economic uncertainty, decreased lending, and increased credit risk.

2. **Monetary Policy and Low Interest Rates:** Low interest rate policies during the period can affect a bank's profitability, especially if borrowing costs remain high. This can put pressure on ROE.

3. **Portfolio Diversification and Non-Interest Income:** Large banks may have strong portfolio diversification and non-interest income that can mitigate the negative impact of ROE on stock prices.

4. **Indirect Market Reaction: Although ROE** is generally considered a positive indicator, market reaction may not be directly in line with changes in ROE. The stock market can be influenced by investor perception, market sentiment, and psychological factors.

CONCLUSION

Based on the results of the analysis and discussion in the previous chapter, it can be concluded as follows:

1. Testing together BOPO, LDR, EPS, and ROE gives the calculation results, namely, the Fcalculate value of 167.3543 is greater than Ftable 2.6697. Thus, it can be said that BOPO, LDR, EPS, and ROE have a significant influence on stock prices.

2. The influence of BOPO on stock prices partially. The results of this test show that every 1 unit increase of the BOPO variable will decrease the stock price by 0.284087 units.

3. The effect of LDR on stock prices partially. It can be concluded that H0 is accepted which means H1 is rejected, this states that there is no negative and significant influence of the LDR variable on stock prices.

4. The partial effect of EPS on stock prices based on calculations made states that there is a positive and significant influence of EPS variables on stock prices. This shows that every 1 unit increase of variable EPS to the stock price. This shows that every 1 unit increase of variable EPS will increase the stock price by 0.061690 units

5. The effect of ROE on stock prices partially. Based on the test results, it can be concluded that H0 is accepted and H1 is rejected, which means that there is no significant effect of ROE variability on stock prices.

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